

SYPHILIS OF THE ESOPHAGUS.

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It is a well-established clinical fact that in a given individual, certain of the systems seem more predisposed in their susceptibility to the *Spirocheta pallida* than do others. The peculiar predisposition for the exclusive localization in the nervous system, for example, occurs in those cases in which the mucocutaneous system is relatively uninvolved, and, conversely, where the mucocutaneous system is early involved with severe manifestations it is exceptional to find late nervous sequelæ. To what extent this susceptibility is due to the virulence or strain of the organism, on the one hand, or to the individual lowered resistance of the affected system, on the other, is as yet undetermined.

The high susceptibility of the mouth and pharynx in early syphilis and the not infrequent occurrence of syphilitic manifestations in the rectum late in the disease make the apparent immunity of the rest of the digestive system a rather striking feature. Leaving out the mouth and rectum the digestive tube seems to enjoy an immunity to the action of the syphilitic organism which is without parallel in any other system. Syphilis of the esophagus, of the stomach, and small intestine is of exceedingly rare occurrence. Indeed its occurrence was denied in many of the earlier works on pathology, surgery, and medicine.

The first mention of syphilis of the esophagus is found in the writings of Severinus¹ in the middle of the eighteenth century. Gastou,² who wrote the chapter on syphilis of the gastro-intestinal system in Fournier's monumental work, has been able to collect 40 cases of esophageal syphilis. In 13 of these cases the diagnosis could be verified at autopsy; 6 cases improved under the influence of antisymphilitic treatment and did not come to autopsy; in 11 cases there was dysphagia, with the signs of stricture, and 10 cases of the 40 Gastou holds open to doubt as to the correctness of the diagnosis.

Dysphagia, leading to marasmus and death, in the course of syphilis is mentioned by Jean Astruc³ (1736) and also by Carmichael⁴ (1815). Ruysch⁵ (1717) and Haller⁶ (1768) report cases in which apparently syphilitic stenosis of the esophagus was cured

¹ Cited by Lublinski, 1580-1636 (Berl. klin. Woch., 1883, pp. 499 and 515).

² *Traite de la Syphilis*, A. Fournier, 1906, ii, 465.

³ *De Morbis venereis libri sex*, Paris, 1736.

⁴ *An Essay on Venereal Diseases*, Dublin, 1815, p. 270.

⁵ *Adv. anatomico medica chirurgica*, Amsterdam, 1717-1723. (Cited by Lublinski.)

⁶ *Opuscula pathologica*, etc., Laus, 1768. (Cited by Lublinski.)

by mercurial treatment. The anatomy of esophageal syphilis was first described by Lieutaud.⁷ Notwithstanding these early reports of esophageal syphilis, many of the earlier texts on pathology and surgery failed to give a place to syphilis of the esophagus. In Bardeleben's⁸ text, however, also in Strümpell's,⁹ ulcerations of the esophagus due to syphilis are described. Koenig,¹⁰ writing in Billroth's *System*, also gives mention to esophageal syphilis. The subject receives considerable mention in *Virchow's Archiv* by Virchow¹¹ himself. Herein are included the autopsy report and the full anatomical description of esophageal stenosis in syphilis and of esophageal ulcerating gumma.

In 1863 Wilks¹² showed a specimen from the museum of Guy's Hospital which showed sclerosis of the upper portion of the esophagus following syphilitic ulceration. The same observation is recorded in 1875 by Klob.¹³ The first, however, to call attention to esophageal syphilis in an excellent monograph was James West¹⁴ (1860). This author collected from his vast experience three cases of syphilis of the esophagus, in two of which he was able to corroborate his clinical findings at autopsy. The other case improved on treatment and remained well. West cites also in his paper cases by Langston-Parker¹⁵ and Clapton,¹⁶ which by analysis could be nothing but cases of syphilitic esophagitis.

Follin,¹⁷ in 1861, records a case of dysphagia of undoubted syphilitic nature. Robert,¹⁸ in 1861, cited by Lubinski, in discussing dysphagia in syphilis, avers that the autopsy findings in such cases show at times lesions in the pharynx, in the larynx, and in the esophagus. Morrell MacKenzie,¹⁹ in 1874, reports a case of esophageal stenosis at the level of the sixth dorsal vertebra in an old syphilitic which yielded in a short time to antisiphilitic medication. A most excellent treatise on the subject is published in 1883 by Lubinski,²⁰ who has cited literature at great length and added two observations of his own. Both these cases recovered completely, but there could be no doubt from the excellent description and history that these were examples of true syphilitic esophagitis.

⁷ *Historia anatomico medica sistens numerosissima cadavernum humanorum exstirpitia*, Paris, 1767.

⁸ *Lehrbuch der Chirurgie und Operationslehre*, 8th edition, iii, 543.

⁹ *Lehrbuch der speciellen Pathologie u. Therapie inneren Krankheiten*, 1912, 18th edition, i, 518.

¹⁰ *Handbuch der allgemeine u. specielle Chirurgie*, Pitha u. Billroth, 1880, iii, 17-18.

¹¹ *Archiv f. pathologische Anatomie u. Physiologie*, 1856, xv, 217-315.

¹² *On the Syphilitic Affections of the Internal Organs*, London, 1863, p. 41.

¹³ *Wien. med. Woch.*, 1875, xxv, 210.

¹⁴ *Dublin Quart. Jour. Med. Sci.*, 1860, xxx, 29; *ibid.*, *Lancet*, 1872, ii, 291.

¹⁵ *Lancet*, 1872, ii, 292.

¹⁶ *St. Thomas' Hosp. Rep.*, 1871, new series, ii, 177.

¹⁷ *Traite Élémentaire*, Paris, 1861, i, 696.

¹⁸ *Nouveau Traite des maladies veneriennes*, Paris, 1861.

¹⁹ *Lancet*, 1874, i, 754.

²⁰ *Berl. klin. Woch.*, 1883, pp. 499 and 515.

In 1887 a typical case is described by Potain.²¹ According to Gastou,²² gastrotomy is reported for syphilitic stenosis in 1870 by Maury. In 1884 Jullien²³ published a monograph on esophageal syphilis based on nineteen authentic cases which he had collected. In the American literature a single case, according to other authors, is reported by Godon in 1880. I have been unable, however, to verify this observation, as the reference is evidently misquoted as to the date.

Apparent paralysis of the muscularis of the esophagus due to syphilis is described by Saundby²⁴ in recent literature. In the case described by this author and in another cited by him and described by Mott²⁵ there was sudden paralysis of the esophagus, as shown by dysphagia, without any stenosis, occurring in syphilitic individuals. In both cases there was evidently central nervous syphilis antedating the esophageal symptoms, and both cases responded well to antisyphilitic treatment. Strictly speaking, these cases would hardly be classed as disease of the esophagus itself, but have rather to do with the involvement of its innervation, directly referable to syphilitic disease of the central nervous system.

Careful study of the cases described and the one observation of my own which is to follow, reveal no single etiological factor for the occurrence of the lesions in the esophagus. The lesions occurred somewhat more often in men than in women, although it is a striking fact that all of West's cases occurred in females. In no case did injury seem to play any role. Of striking significance, however, is the fact that in a large number of cases there were lesions in the mouth and pharynx, suggesting either the continuity of the infection, or speaking more directly for the localization of the process in the digestive system. It is also a striking fact that many of the earlier cases were evidently fulminating in type with rupia and extensive caries. Such are the cases described by Wilks, Carmichael, and West.

The pathology of syphilitic esophagitis depends upon the time at which the case may be studied. Secondary superficial erosions and ulcerations, such as occur in the mouth and pharynx are not described in the esophagus. Such cases do not come to autopsy frequently. The not infrequent dysphagia, however, that occurs in secondary syphilis could, I think, well be due to superficial erosive syphilides. The great bulk of our cases, however, are those of tertiary syphilis. Here it would seem that the process is usually a gummatous condition of the submucosa which undergoes one of

²¹ Gazette Médicale de Paris, 1887, iv, 193; *ibid.*, La Semaine Médicale, 7, 1887; vii, 261.

²² *Loc. cit.*

²³ *Loc. cit.*

²⁴ British Med. Jour., January 31, 1914, No. 2770, p. 239.

²⁵ A System of Syphilis, Power and Murphy, iv, 92.

two changes. It may, under appropriate treatment, or even spontaneously, involute by fatty degeneration, such as is described by Lublinski and by West, the second case of Follin's, and in the case cited by West of Clapton's. In the event, however, of no treatment, or occasionally in spite of treatment, such gummatous changes are likely to undergo early ulceration. If these heal, there results a scar with a marked tendency to contraction and resulting stenosis. Finally, there may be, instead of localized scarring and contraction, a diffuse process encircling the entire tube for the greater part of its length and causing almost complete stenosis and impossibility for all solid food. This last condition is accurately described in the first of the Virchow cases and in the case described by Wilks.

To these cases we should like to append one which we have had the opportunity of observing at the University Hospital during the past year. The patient, a woman, aged forty years, was transferred to my department by my colleague, Dr. Canfield, of the Otolaryngological service. She was admitted to the hospital for throat trouble December 18, 1913. Her family history was of no importance save that the patient had had two miscarriages following two healthy pregnancies. Nine years previous to her admission she had ulcers on the left cornea, and finally the eye was removed. Eight or nine years ago the patient began to experience a little difficulty in swallowing. This did not become severe, however, until six years ago, when she would occasionally become choked on eating. There was also considerable pain at this time during the act of deglutition, and soreness of the mouth was noticed on taking of hot or sour food. At this time the glands of the neck were also considerably enlarged.

Status Præsens.—The patient is an extremely anemic, rather cachectic woman. The left eye is glass. The right pupil reacts to light and in accommodation, but shows some interstitial keratitis. The skin of the body is entirely clean except for a few pigmented macules about the hips, knees, and back. The tongue is absolutely smooth and devoid of papillæ. The mouth is dry and there is extensive sclerosis of the entire buccal cavity. The entire mucous membrane of the mouth and tongue give the appearance almost of a kraurosis. There is no general adenopathy. The liver and spleen are not palpable. The urine and blood are normal. An x-ray plate of the patient's chest shows a periostitis about the middle of the left humerus. The occurrence of the esophageal lesion was accidentally discovered, as the patient did not complain of distinctly painful deglutition. On December 29 a small morsel of food became impacted in the esophagus and remained there one hour and twenty minutes in spite of efforts to dislodge it. At this time a small caliber stomach-tube was passed in order to relieve the patient of her dysphagia, and it was found that this could not

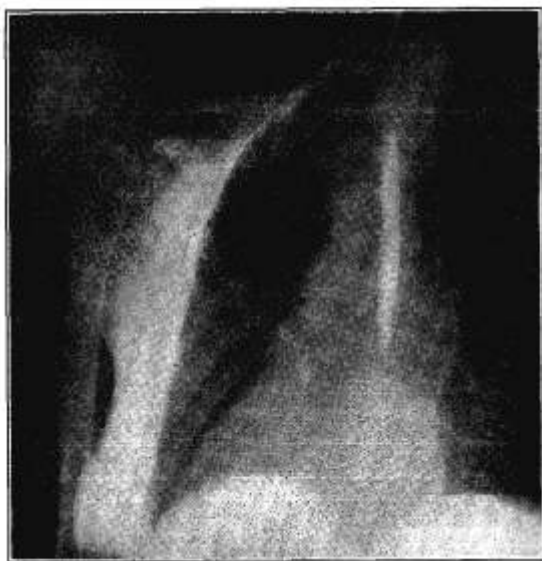
be passed into the esophagus at all on account of the very evident constriction just below the larynx. On December 30 an esophagoscope was performed upon the patient by Dr. Canfield, and it was discovered that there was a marked sclerosis of the entire tube. Nothing but the smallest sized filiform bougie could be passed into the esophagus and down to the stomach. On January 17 the patient was given a bismuth paste and fluoroscoped. During the act of deglutition a definite stricture was noted just below the level of the lower portion of the larynx, and a second stricture just above the cardia. In both cases there was a distinct pouch found above the point of stricture and the bismuth could be seen passing very slowly through the constricted portions. An x-ray photograph was attempted and shows fairly well the uppermost of the two strictures. The patient was placed upon a combined salvarsan and mercurial therapy and her condition improved markedly. An attempt was also made to dilate the strictures with bougies of increasing size, and following each application deglutition was somewhat easier. At the present time the patient is receiving vigorous mercurialization and tri-weekly esophageal dilatation.

The symptoms of syphilitic esophagitis do not differ materially from the symptoms due to other forms of esophageal disease. Of first rank in importance is difficulty in deglutition. This, as a rule, is a gradual process. The patient notices at first slight difficulty in swallowing solid food. Then he can swallow solid food only in small morsels, and later solid food becomes impossible to swallow; it is regurgitated and liquid food only can pass into the stomach. In time this too becomes difficult, so that in rare cases there is complete stenosis. Pain is not a marked symptom, except during the act of swallowing. Where there is ulceration, pain may be present in repose as well as during deglutition. In old-standing cases where scarring and consequent narrowing of the tube occur the pain during attempted swallowing may be very severe.

Anemia, weakness, denutrition, and later cachexia are frequent late in the disease. These may find their cause either in coincident syphilis of other parts which is likely to approach a malignant type or, in cases in which an esophageal lesion is present without other manifestations of active syphilis, the above symptoms are readily explained on the ground of actual starvation.

The differential diagnosis is at times extremely difficult. In the absence of other manifestations of syphilis, carcinoma, compression of the esophagus by mediastinal tumors, and spastic stenosis are the conditions which are most readily confounded with the condition in question. The marked cachexia which may accompany the condition late, renders its differential diagnosis from carcinoma the more difficult. In general the carcinoma is apt to be more painful and appears more frequently in the lower part of the

esophagus than in the upper. Emesis and hematemesis are more common in carcinoma than in syphilis. The Wassermann reaction is of course a most valuable guide in the differential diagnosis. It must be remembered, however, that carcinoma could quite possibly find a starting place in an old gumma, so that a positive Wassermann, while presumptive evidence of the syphilitic nature of the process, would not of necessity rule out carcinoma. A valuable aid in the diagnosis as well as to the localization of the lesions lies in the x-ray and fluoroscopic examination. In the case described by myself the confirmation of the diagnosis was most satisfactorily established by this means. It was noted in the fluoroscope that bismuth taken a half-hour previously was



x-ray photograph showing the uppermost of the two strictures.

retained in two large pouches situated just above extensive areas of stricture. In the one case, as may be seen by the radiograph, the pouch is located just below the larynx. Just below this point the canal seems obliterated. The second pouch is noted about 6 cm. above the cardia, and from this point to the stomach the canal is again obliterated. This picture could obviously not be produced by carcinoma; that is, two extensive foci of disease separated by a relatively normal portion of the tube. The fluoroscope and radiograph would also serve obviously to distinguish such cases from those of simple spasm. The absence of shadows in the mediastinum and the absence of physical signs by percussion

readily differentiate the condition from mediastinal growths giving rise to esophageal compression.

The prognosis of the condition seems to depend entirely upon the time at which the condition is recognized. In those cases in which there is gummatous infiltration with a low grade of stenosis the prognosis under antisypilitic is excellent. Where the gumma is ulcerated the prognosis is more grave, because it is sure to be followed by more or less constriction following the healing of such ulceration. In those cases in which there is extensive fibrosis of long standing the prognosis is exceedingly grave, and for the most part these patients die of marasmus.

The treatment of the condition must be a most energetic one. Up to the present time mercury and iodide have been of service in those cases in which a good prognosis could be looked for. In any event the esophagus should be carefully sounded following the antisypilitic treatment, and the contraction, if there be one, should be gradually dilated much in the same way as in the treatment of urethral stricture. In my own case I may say that the patient improved markedly under the combined salvarsan and mercurial therapy, notwithstanding the fact that she belonged to the worst class of cases—namely, that in which there is complete fibrosis of the canal. The esophagus now admits a No. 11 bougie, the patient has taken on weight, eats solid food with greater ease, and is in a fair way toward partial recovery.

In conclusion I venture to express the opinion that syphilitic esophagitis, though a rare condition, is nevertheless not so infrequent as the rather scanty literature on the subject would seem to indicate. It is not improbable that many cases which die in cachexia supposedly with carcinoma of the esophagus are cases of death from marasmus as the result of syphilitic esophagitis. The same relation that Billroth showed between gumma and carcinoma of the tongue without doubt also exists in the esophagus. In these days of refined laboratory technique, however, mistakes in diagnosis are less apt to occur. It goes without saying that any case of esophageal stricture or esophageal tumor should not escape a most careful scrutiny, with a view to its possible syphilitic nature.